REMARKS

Claims 1-18 are pending in the present application. Claim 1 has been amended and support for this claim amendment can be found on page 5, paragraph 18. Claims 1-4, 6, 7, 10-13, and 15-18 stand rejected as being allegedly anticipated by U.S. Patent No. 6,319,426, U.S. Patent No. 6,251,303 (the '303 patent), and U.S. Patent No. 6,444,143 (referred to collectively as the "Bawendi patents"). Applicants respectfully traverse these rejections.

Claim 1 has been amended to clarify that the surface coating of the nanocrystal comprises molecules "having a moiety with an affinity for the semiconductor nanocrystal and a moiety with an affinity for a hydrophobic solvent." As further recited by claim 1, a diblock polymer layer comprising a plurality of diblock polymers having a hydrophobic end for noncovalently interacting with the surface-coated semiconductor nanocrystal and a hydrophilic end, surrounds this surface coating of the nanocrystal and adjacent ones of the plurality of diblock polymers are linked together by a bridging molecule. The semiconductor nanocrystals described in the Bawendi patents do not teach or suggest these elements.

Specifically, the Bawendi patents describe two types of water-soluble semiconductor nanocrystals. The first type has only a single outer layer and the second type has an inner and an outer layer but the outer layer is not linked together by bridging molecules. With respect to the first type, the semiconductor nanocrystal illustrated in Figure 1 of the '303 patent and described in column 6, lines 14-29 has an outer layer "including a compound having at least one linking group for attachment to the overcoating layer [which is described in col. 7 lines 7-8 of the '303 patent as being a semiconductor] and at least one hydrophilic group spaced apart from the linking group by a hydrophobic region." As such, this outer layer has an end group for linking to the nanocrystal and a hydrophilic end group. Accordingly, there is no description in this aspect of the Bawendi patents of a nanocrystal surface coating of molecules having "a moiety with an affinity for a hydrophobic solvent," for interacting with a hydrophobic end of a diblock polymer, as recited in claim 1. The hydrophobic region described in the semiconductor nanocrystal of this aspect of the Bawendi patents is couched between a hydrophilic group and a linking group and is not available to interact with another

hydrophobic group. There is also no description of this type of semiconductor nanocrystal having a diblock polymer layer surrounding this surface coating. The only description of a diblock polymer for this semiconductor nanocrystal is where the diblock polymer is the entire outer layer that provides the "requisite linking, hydrophilic and hydrophobic functionalities." (Col. 10, lines 21-23 of '303 patent). In such a case, the semiconductor nanocrystal does not include another the surface coating, as recited by claim 1. As such, this type of semiconductor nanocrystal described in the Bawendi patents does not describe both the surface coating and the diblock polymer layer of the semiconductor nanocrystal, as recited in claim 1.

The other type of semiconductor nanocrystal described in the Bawendi patents is a semiconductor nanocrystal having a bilayer (an inner layer and an outer layer) (See col. 12, lines 1-37 of '303 patent). However, there is no description of this type of semiconductor nanocrystal having adjacent diblock polymers in the outer layer being linked together by bridging molecules. For at least this reason, Applicants submit that claim 1 (and all claims that depend therefrom) is not anticipated by the Bawendi patents and Applicants request withdrawal of this rejection.

With respect to claim 17, Applicants submit that the Bawendi patents do not teach or suggest exposing a semiconductor nanocrystal to a multidentate molecule having more than one amine functional group and forming a semiconductor nanocrystal complex having an amine-terminated functional group, as recited in claim 17. For at least this reason, Applicants submit that the Bawendi patents do not anticipate or render obvious claim 17, and Applicants request withdrawal of this rejection.

CONCLUSION

It is respectfully submitted that the present application is now in condition for allowance, which action is respectfully requested. The Examiner is invited to contact Applicants' representative to discuss any issue that would expedite allowance of the subject application.

Any fees for extension(s) of time or additional fees are required in connection with the filing of this response, such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is authorized to charge any such required fees or to credit any overpayment to Kenyon & Kenyon's Deposit Account No. 11-0600.

Respectfully submitted,
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Dated: Nov. 12th 2007

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